



Maverick American

3085 Bluff Street

Boulder, CO 80301

Tel: 303-415-0370

Fax: 303-415-0676

www.maverickamerican.com

ML7.2 SHOCK SERVICE MANUAL

1. OVERVIEW

- 1.1. The Maverick ML7.2 rear shock is an oil damped system with internal air spring. The damper system is housed inside a sealed cartridge with a floating separator piston. It has external rebound and air pressure adjustments. In Addition, the Negative Spring and rebound valving can be changed internally.
- 1.2. The shock is built similar to a front fork, with two telescoping tubes and a bushing designed to take heavy side loads. The outer telescoping tube is rigidly mounted to the rear frame triangle to increase stiffness and securely hold the shock. The shock also plays an important roll in creating the linear wheel path, which is the cornerstone of the Monolink system.
- 1.3. The damping system is a small cartridge unit housed within the shock. It can be easily removed for service, or cleaning of the Wiper and Main Seal. In almost every service procedure, the outer Shock Body can be left in place, remaining attached to the frame.

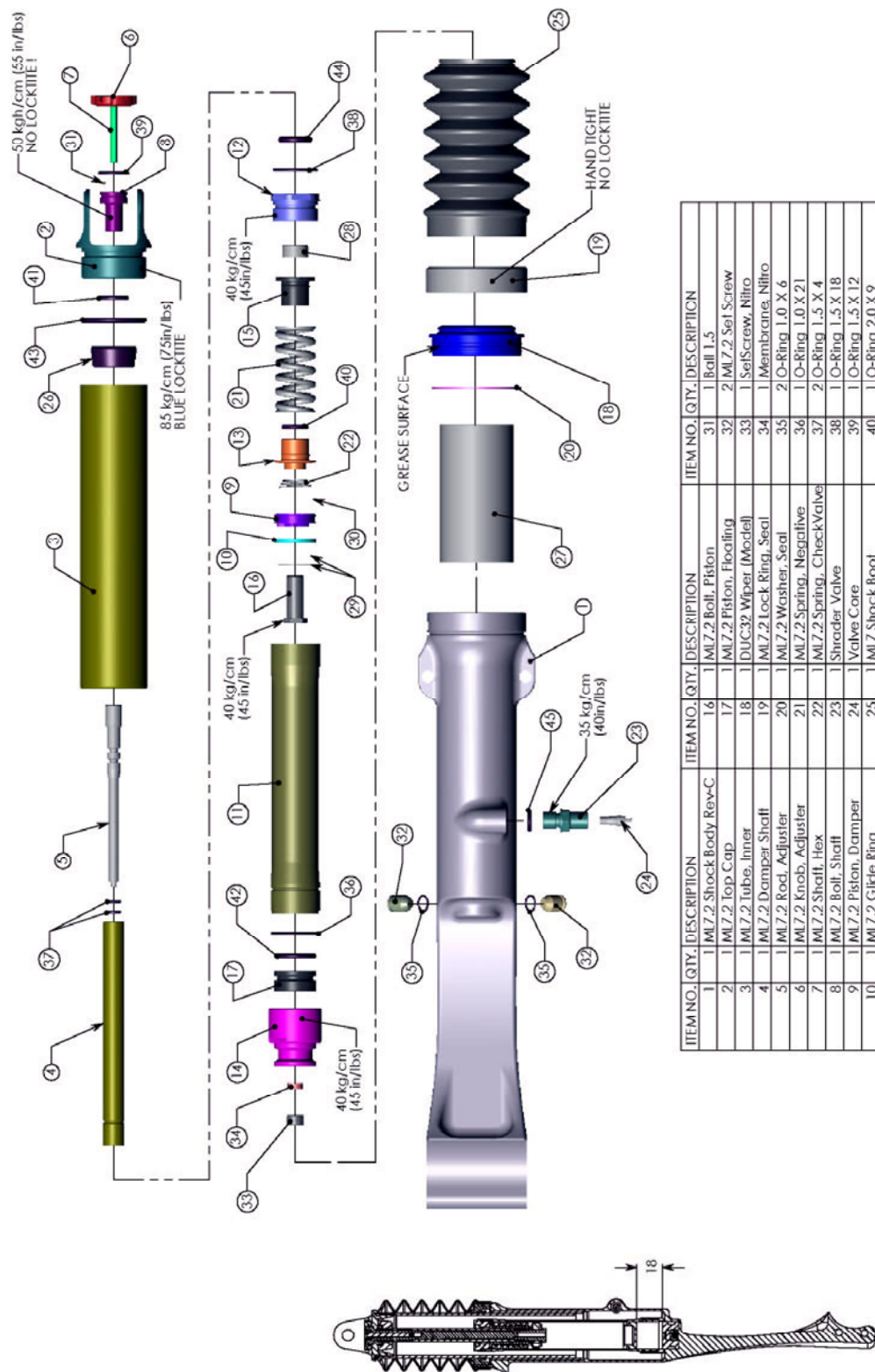
2. DESCRIPTION OF FUNCTIONS AND EXPLODED VIEWS (See Page 4 for Exploded View and Parts List)

2.1. DAMPER: The damper cartridge contains 5 wt shock oil and a small charge of air pressure, with an Internal Floating Piston (IPF) that separates them. The Cartridge at the bottom end is threadably fixed to the Attachment Boss, which holds it to the Shock Body. The Damper Shaft extending from the top end of the Cartridge attaches to the Top Cap. Inside it passes through the Seal Head and holds the Damper Piston. The Damper Piston has Valve Shims to create separate rebound and compression damping rates.

The piston passes through the shock oil when the shock is moving. When the shock is compressed or extended, the corresponding Valve Shim is forced open by the oil pressure to create the appropriate damping effect. Oil may also pass through the center of the shaft and out a side hole in the Damper Shaft. The amount of oil that may pass through the hole, and bypass's the Piston Valves, is altered by the Adjuster Rod that runs down the center of the Damper Shaft and is moved by the Adjuster Knob.

The air charge is to allow for the volume the shaft will displace when it is pushed into the Damper Unit. As the shaft is pushed in, the air is further compressed. The air is pressurized so oil will pass through the Damper Piston instead of compressing that air, causing a loss of damping.

REV	DATE	BY	CHKD
1	01/20/18	PAUL BURNER	5811 JAO
2	02/07/18	PAUL BURNER	5811 JAO
3	02/07/18	PAUL BURNER	5811 JAO
4	02/07/18	PAUL BURNER	5811 JAO



ITEM NO.	QTY.	DESCRIPTION	ITEM NO.	QTY.	DESCRIPTION
1	1	ML7.2 Shock Body Rev-C	16	1	ML7.2 Bolt, Piston
2	1	ML7.2 Top Cap	17	1	ML7.2 Piston, Floating
3	1	ML7.2 Tube, Inner	18	1	DUC32 Wiper (Model)
4	1	ML7.2 Damper Shaft	19	1	ML7.2 Lock Ring, Seal
5	1	ML7.2 Rod, Adjuster	20	1	ML7.2 Washer, Seal
6	1	ML7.2 Knob, Adjuster	21	1	ML7.2 Spring, Negative
7	1	ML7.2 Shaft, Hex	22	1	ML7.2 Spring, Check Valve
8	1	ML7.2 Bolt, Shaft	23	1	Strander, Valve
9	1	ML7.2 Piston, Damper	24	1	Valve Core
10	1	ML7.2 Gidle Ring	25	1	O-Ring 1.5 X 12
11	1	ML7.2 Damper Tube	26	1	O-Ring 2.0 X 9
12	1	ML7.2 Seal Head	27	1	DUC32 Bottom Bumper
13	1	ML7.2 Collar, Top-Out	28	1	Bushing 32 X 34.7 X 65
14	1	ML7.2 Attachment Boss	29	2	IDU Bushing 10 X 12 X 6
15	1	ML7.2 Collar, Neg Spring	30	2	O-Ring 2.0 X 27
			31	1	O-Ring 3.0 X 10
			32	2	O-Ring .070 X .25
			33	1	Ball 1.5
			34	1	Self Screw, Nitro
			35	2	Membrane, Nitro
			36	1	O-Ring 1.0 X 6
			37	2	O-Ring 1.0 X 21
			38	1	O-Ring 1.5 X 4
			39	1	O-Ring 1.5 X 18
			40	1	O-Ring 1.5 X 12
			41	1	O-Ring 2.0 X 9
			42	1	O-Ring 2.0 X 10
			43	1	O-Ring 2.0 X 16
			44	1	O-Ring 2.0 X 27
			45	1	O-Ring 3.0 X 10

SECTION A-A
SCALE 1:2

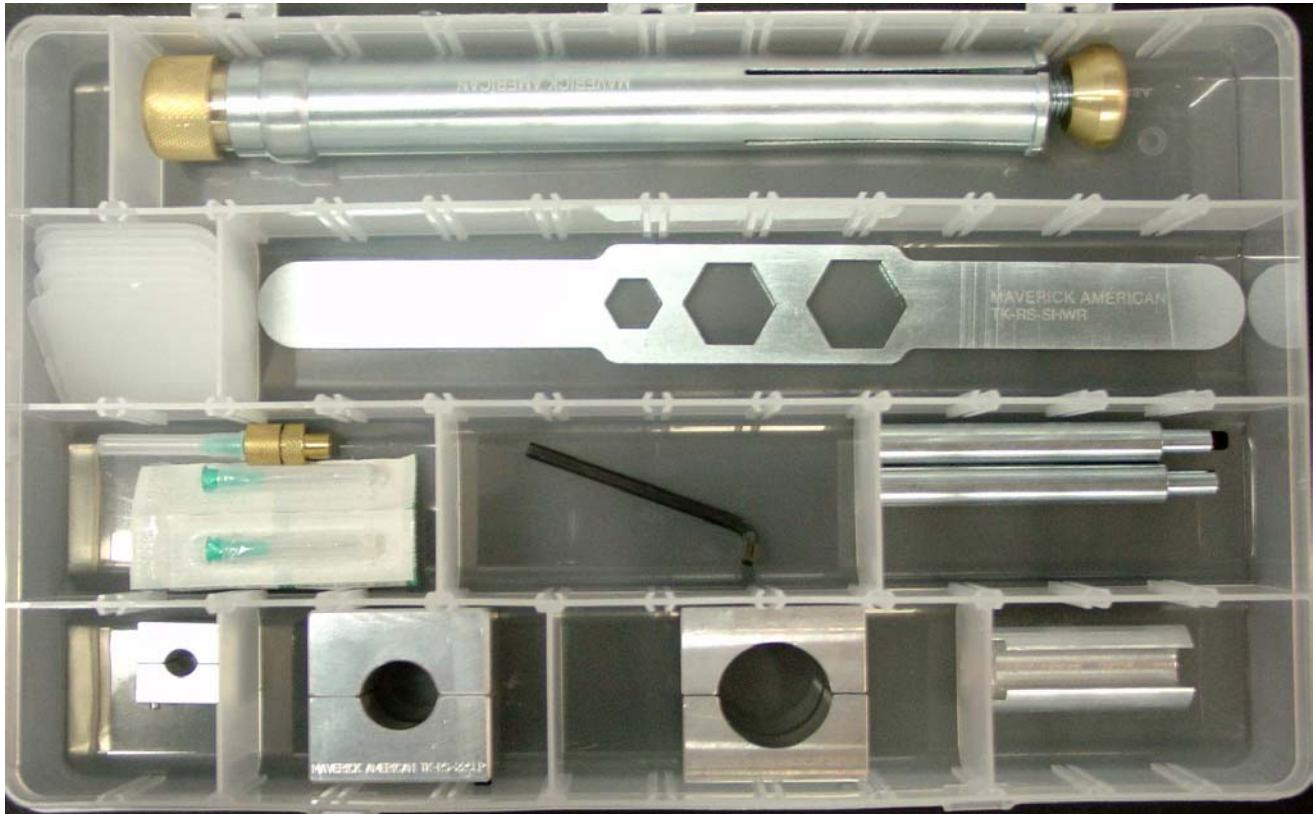
- 3 - SET ADJUSTER KNOB 1/2 TURN FROM FULL CLOSED
 - 2 - PRESSURIZE SHOCK ASSEMBLY TO 140 PSI (9.5 BAR)
 - 1 - FILL DAMPER WITH 5 WT SHOCK OIL (AIR EVACUATED), WITH FLOATING PISTON POSITIONED AS SHOWN. PRESSURIZE TO 100 PSI (7 BAR)
- NOTES UNLESS OTHERWISE SPECIFIED

ML7.2 SHOCK ASSY

MAVERICK
 P/N: ML7.2-RS-ASSY
 SCALE: 1:2

3. REQUIRED TOOLS AND/OR EQUIPMENT

3.1. One Maverick Suspension Tool Kit



3.2. One Shock Pump

3.3. Two 5mm Hex Keys

3.4. One 4mm Hex Key

3.5. One 6mm Hex Key

3.6. One Flat Head Screwdriver

3.7. Medium Strength (Blue) Loctite

3.8. 5wt Fork Oil

3.9. Access to a Flat Jawed Vice and a Work Stand

4. SERVICE PROCEDURES

4.1. Removing shock from frame

4.1.1. Wash the bike. (You'll thank us later)

4.1.2. Release the air pressure from the shock through the Schrader Valve (*very important!*).



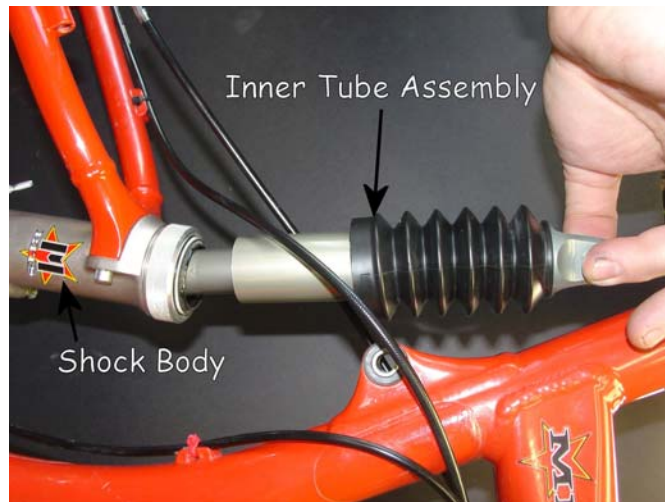
4.1.3. Remove the Top Shock Bolt using two 5mm hex keys.



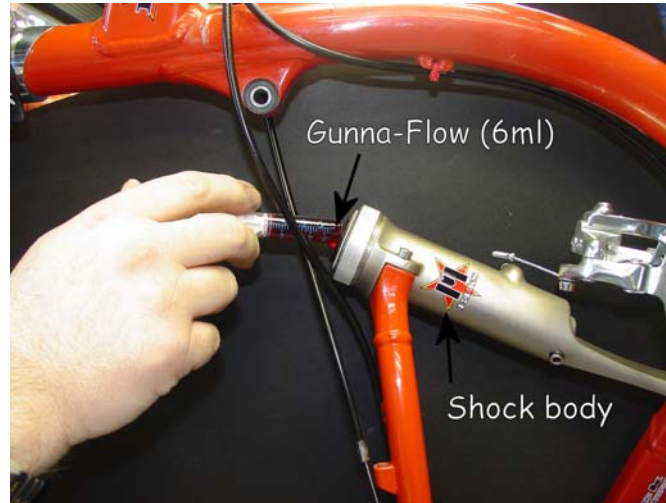
4.1.4. Loosen the Set Screws two turns using a 4mm Hex key.



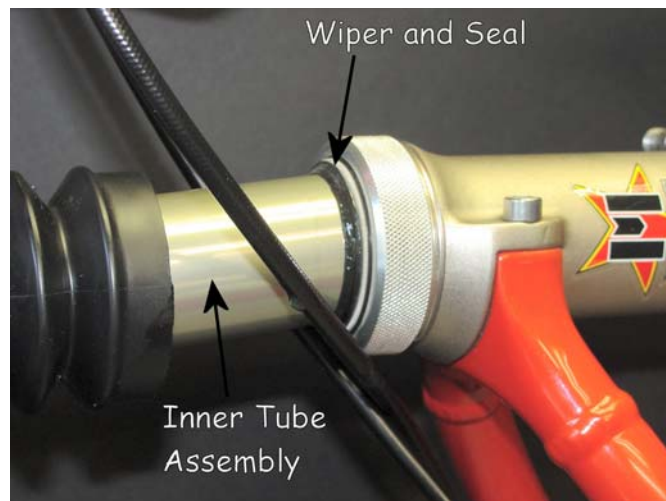
4.1.5. Rotate the bike in the stand so the shock is horizontal (this will prevent the lubrication oil from running out of the Set Screw holes). Now grasp the Top Cap and pull the Inner Tube Assembly out of the Shock Body.



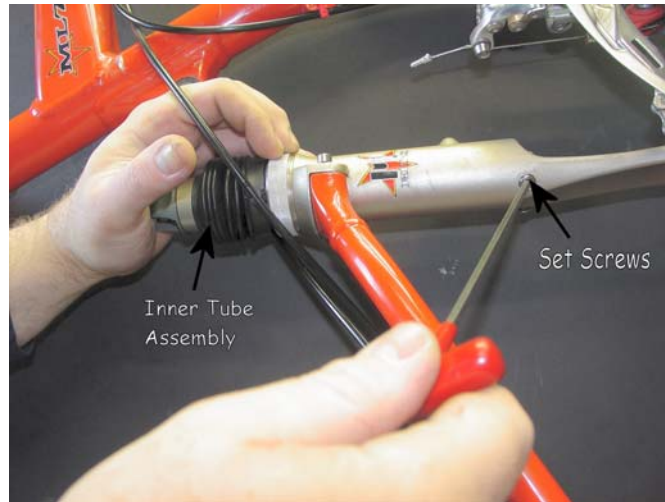
- 4.1.6. To re-install, position the bike so the Shock Body is horizontal. If the Lubrication Oil has been cleaned out, add 6ml of Maverick Gunna-Flow lube into the Shock Body. Smear another 1ml of lube to the Wiper, Main Seal and Bushing.



- 4.1.7. Slide the Inner Tube assembly into the Shock Body and past the Wiper and Seal. The Inner Tube will need to be wobbled and rotated to ensure that the Wiper is not damaged or the sealing lips are not inverted.



4.1.8. The Inner Tube should be pushed in as far as possible to seat the Attachment Boss into the bore at the Bottom of the Shock Body. Now tighten the Set Screws. The outside edge of the Set Screws should tighten flush against the outside of the Shock Body. If they tighten at a point above or below that, then the Attachment Boss is not seated correctly. Remove one of the Set Screws and look in the hole to see if the groove of the Attachment Boss is level with the center of the Set Screw hole. If it is not, push the Damper Unit further in.



CAUTION: Be careful not to damage the O-rings when tightening the set screws!

4.1.9. Pressurize the shock the appropriate amount.



4.1.10. Install the Top Shock Bolt.

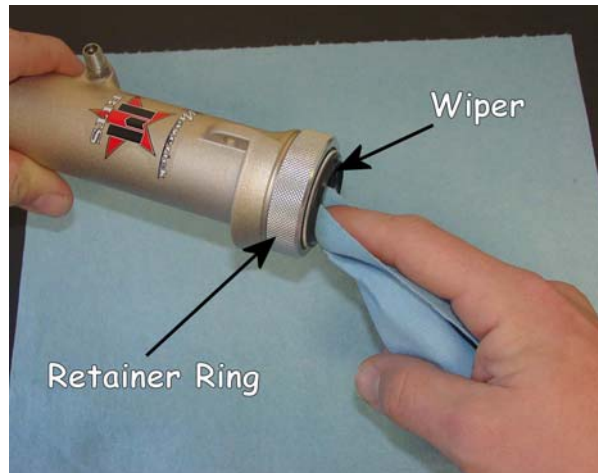


4.1.11. The Shock should be ready to ride!!!!

4.2. Cleaning the Wiper Seal

4.2.1. Remove the Inner Tube Assembly from the Shock Body as detailed in section 4.1

4.2.2. Use a clean, lint-free rag to wipe out the Wiper Seal and Bushing. The lubrication oil should also be cleaned out of the entire Shock Body. Be sure to thoroughly clean any dirt or grime out of the sealing lips of the wiper seal. NOTE: This process can be performed while the shock is attached to the Frame.



If the shock was losing air pressure, it was most likely caused by dirt in the lips of the Main Seal. It should not be necessary to replace the Main seal. Rarely does one wear out and it is far more likely to damage the seal or Shock Body during replacement.

4.2.3. Re-install the Inner Tube Assembly as detailed in section 4.1.

4.3. Bushing replacement

4.3.1. Remove the Inner Tube Assembly from the Shock Body as detailed in Section 4.1.

4.3.2. Unthread the Retainer Ring by grasping the knurled section by hand. Now gently pry the wiper seal out of the Shock Body by twisting the tip of a small screwdriver between the Shock Body and Wiper Seal's flange.



4.3.3. Remove the Seal Washer.



4.3.4. The bushing can now be pulled from the Shock Body using the Maverick Bushing Tool. This can also be done while the Shock Body is still in the frame.

Insert the split end of the Bushing Tool through the Bushing. Tighten the nut on the end of the Tool snug, but not tight. Pull the bushing out of the Shock Body by pulling sharply on the Bushing Tool with your hand.



If the bushing is too tight to remove while the Shock Body is in the frame, remove it and clamp the Bushing Tool into a vice. Use a vice with soft "V" shaped jaws. Be careful not to damage the bulged end of the tool in the vice.

4.3.5. Install the new Bushing by pushing it into the Shock Body by hand. Install the Seal Washer, Wiper Seal, and Retainer Ring. The bore and seals should be lightly greased beforehand.



4.3.6. Once in place, the Bushing will need to be sized with the Maverick Bushing Tool. This is done by pushing the bulged end of the tool through the bushing several times. Lubricate the Bushing beforehand with grease or Gunna-Flow.



NOTE: Before assembly, inspect inner tube for any kink, scratches, or imperfections on the surface that would prevent a perfect Seal.

4.3.7. The Inner Tube Assembly can now be installed as described in Section 4.1

4.4. Cartridge Service

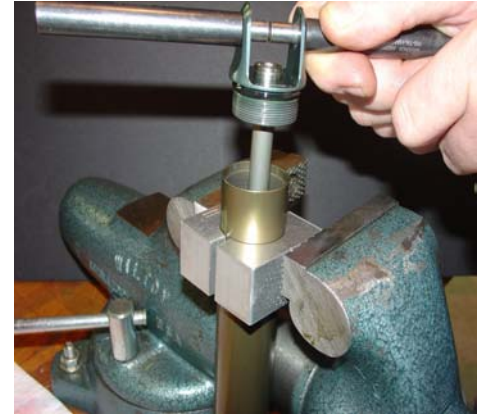
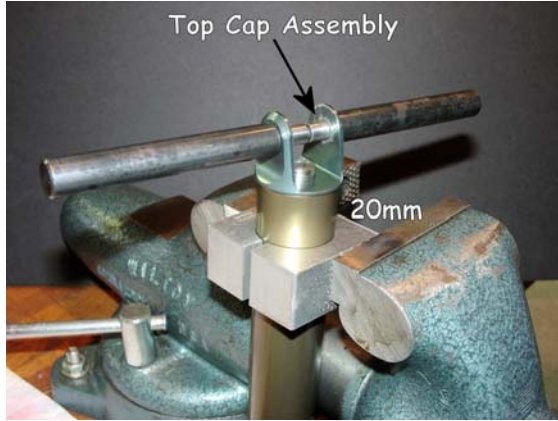
- 4.4.1. Remove the Stanchion Tube and Damper Assembly from the Shock Body as detailed in section 4.1



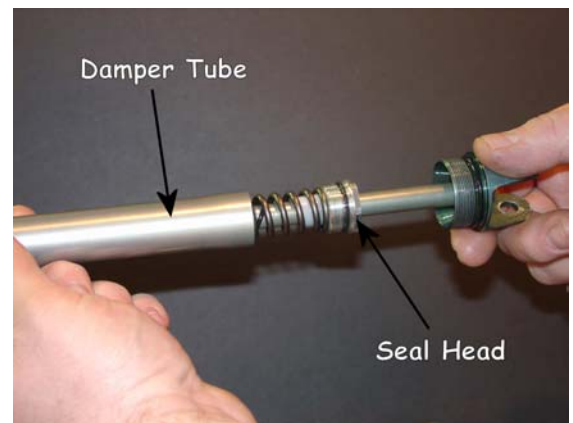
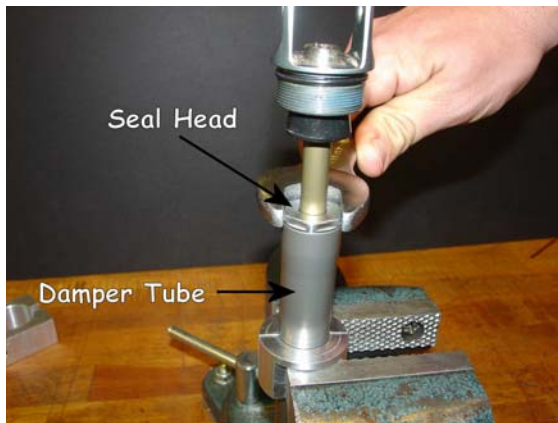
- 4.4.2. Using a 4mm hex key, loosen (do not remove) the Set Screw located at the center of the Attachment Boss on the bottom of the Cartridge. This will allow the air pressure charge to be released. **CAUTION: Contents under Pressure!!!! BE SURE the air is released before Continuing.**



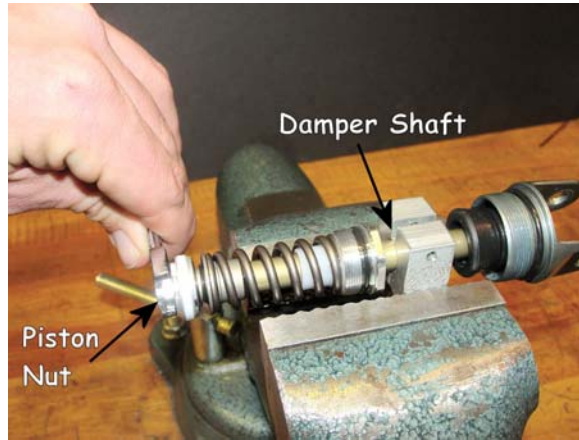
4.4.3. Remove the stanchion tube by clamping it in a vice with the Maverick 32mm vise clamps, 20mm below top edge of the tube. Next, using Maverick top cap handles, remove the top cap by turning counter-clockwise.



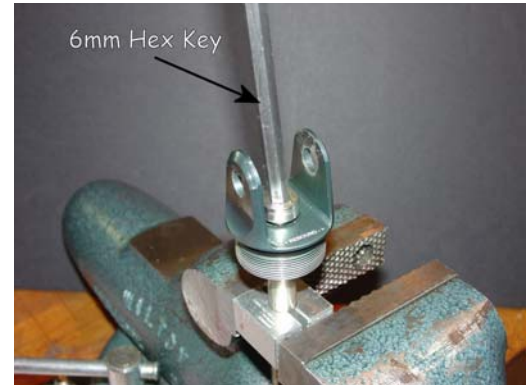
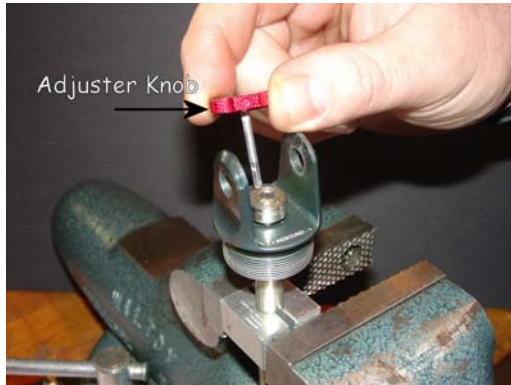
4.4.4. Loosen the Seal Head by clamping the ML7.2 damper tube in a vise using the Maverick 22mm vise clamps, 25mm below the top edge of the damper tube. Unscrew the Seal Head from the Damper Tube. Drain the Oil and discard of properly.



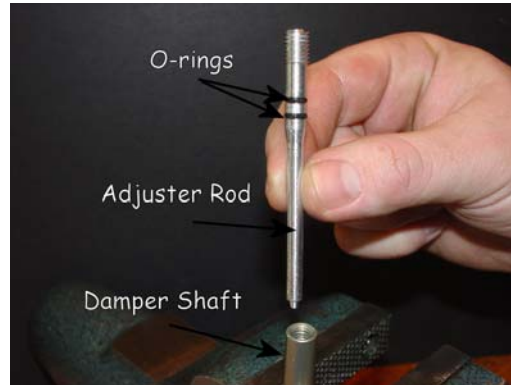
4.4.5. To disassemble the Piston parts, clamp the Damper Shaft in a vice using the Maverick 10mm Clamp Blocks. Remove the Piston Nut with a 10mm wrench. The Piston and the rest of the parts can now be removed. **Pay special attention as to which direction the piston is on the Damper Shaft.**



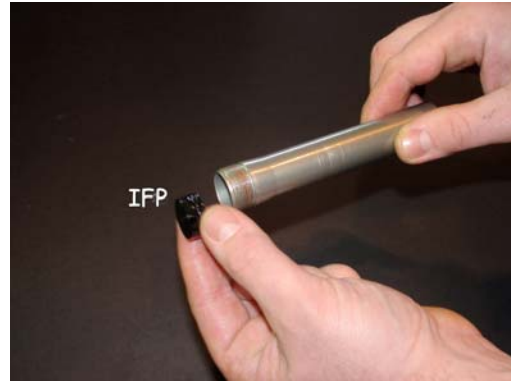
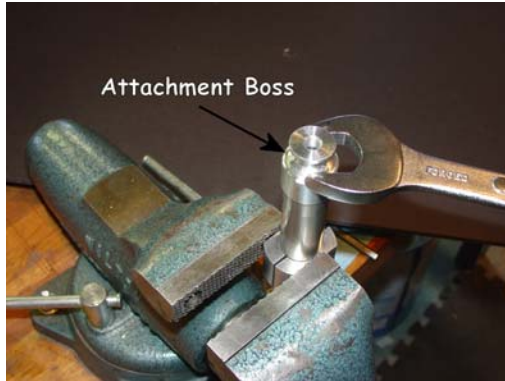
4.4.6. If it is necessary to take the Damper shaft and Top Cap apart, first remove the Adjuster Knob by pulling it out by hand. Now remove the Shaft Bolt with a 6mm Hex key. Once the Bolt is removed, the cartridge can be separated from the Top Cap.



4.4.7. If needed, the Adjuster Rod can be removed from the Damper Shaft by threading it out with a 3mm Hex key. When replacing, grease the O-rings and make sure they are not damaged when passing through the threaded portion of the Damper Shaft.



4.4.8. To remove the Internal Floating Piston (IFP), clamp the Damper Tube in a vice with 22mm Shaft Clamp Blocks and unthread the Attachment Boss using a 21mm wrench. The IFP can be pushed out the bottom.

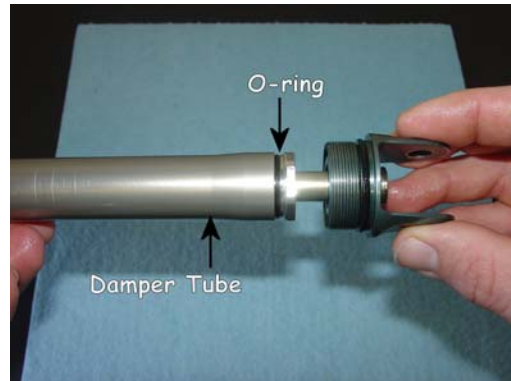
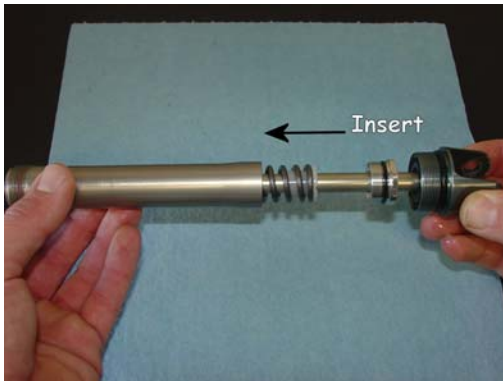


5. Re-Assembly Procedures

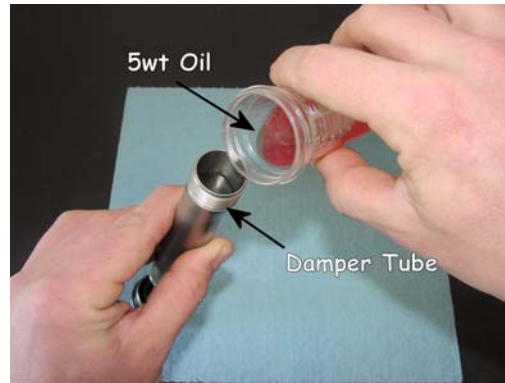
5.1. Re-assemble the Piston assembly as shown in the exploded view diagram (*section 2, Page 4*). Be sure the piston is facing the correct way. Make certain that the compression shim is not clamped between the piston and the top out collar. The shim should float on the collar and be snapped back flat against the piston face by the valve spring. Also make sure the piston nut is not tightening against the adjuster rod instead of the piston. This would be evident if the nut is tight, but the piston is loose. If so, thread the adjuster rod out, away from the piston. Tighten the piston nut to 8NM with a small amount of locktite.



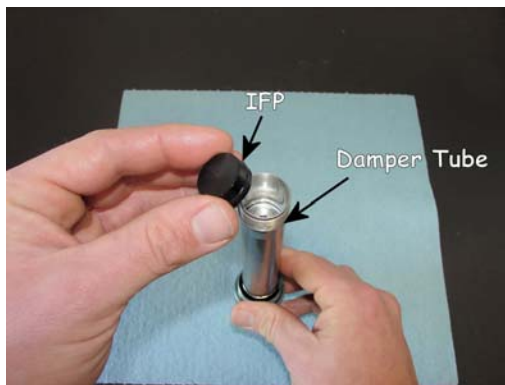
5.2. To assemble the Cartridge, first install the Piston/Damper Shaft/Seal head assembly into the damper tube with no oil and the IFP and attachment boss removed. Thread the Seal head in only up to where the O-ring touches the Damper tube. It will be tightened later.



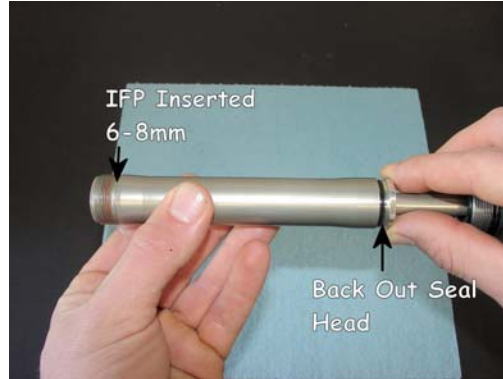
- 5.2.1. With the open end of the Damper tube facing upwards, fill it most of the way with 5wt shock oil. Pump the damper shaft and piston in and out of the cartridge several times to pass oil through the piston and remove all air behind it. Keep adding oil until no more air can be pumped out. *If it is hard to pump, loosen the rebound adjuster $\frac{1}{2}$ turn.*



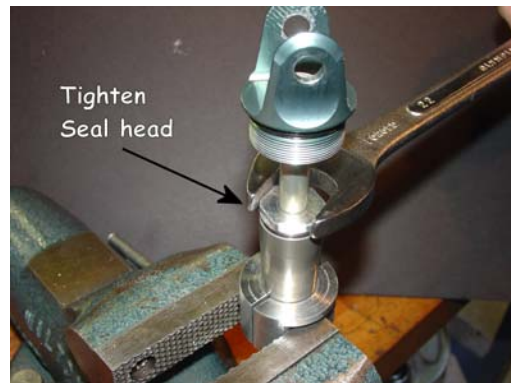
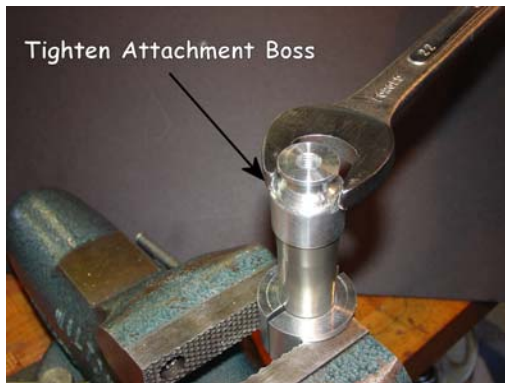
- 5.2.2. With the damper shaft completely in, fill the cartridge completely with oil and insert the IFP, noting the orientation. Make sure as little air as possible is trapped inside. Now, while pressing on the IFP, pull the damper shaft out so the IFP will move into the cartridge.



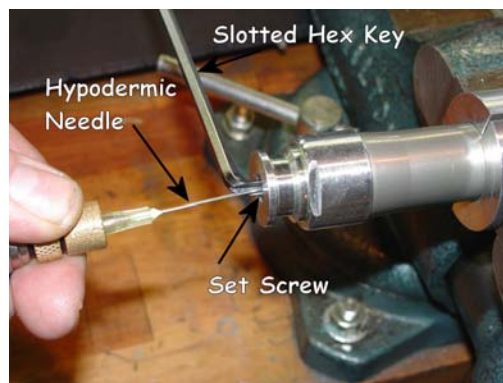
5.2.3. The correct position of the IFP must now be set. With the shaft at Full Extension back out the seal head (not all the way) and pressing the IFP into the cartridge. Oil should escape out around the seal head threads as you are doing this. NOTE: The IFP should be set at 6-8mm from the end of the damper tube when the damper shaft is all the way out and the seal head is tightened against the damper tube.



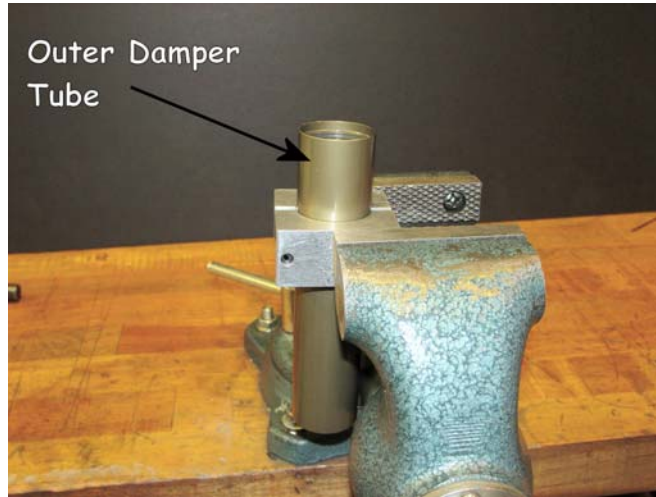
5.2.4. Install the attachment boss and tighten both it and the seal head to 6NM.



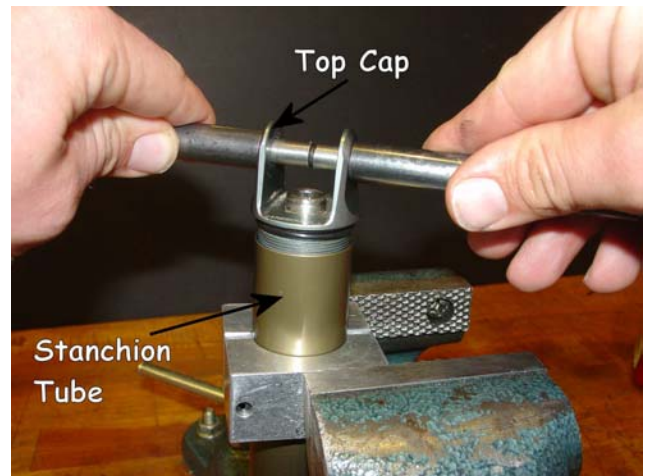
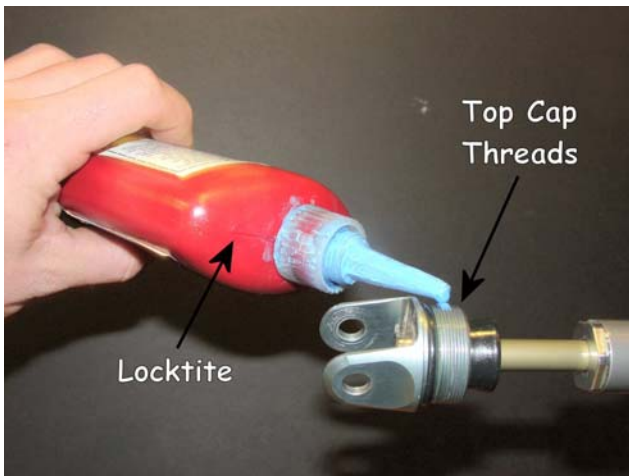
5.2.5. Pressurize the Damper to 125psi using the Hypodermic needle attached to a std shock pump. The Set screw should be loose when inserting the needle, and tightened using the special slotted hex key before removing the needle. After removing the needle, fully tighten the setscrew.



5.2.6. Clamp Outer Damper Tube in vice using Maverick 32mm Clamp Blocks.



5.2.7. Apply Blue Locktite to the Top Cap threads, Insert Assembly into the stanchion tube, and screw parts together using Maverick Top Cap handle set. Tighten to 8-9NM. NOTE: When Reinstalling the Top Cap, make sure all locktite is removed from the threads and O-Ring groove. If there is Locktite on the O-Ring, replace it.



5.2.8. Install the Inner tube assembly into the shock body as detailed in Section 4.1

6. SERVICE INTERVALS AND REQUIREMENTS

6.1. Change Oil Bath Every 100 Hours.

6.2. Overhaul Damper Every 500 Hours.

6.3. Clean and Inspect Wiper Every 100 hours.

7. SERVICE CENTERS

7.1. USA

Maverick American Central Office
3085 Bluff Street
Boulder, CO 80301
(P) 303-415-0370
(F) 303-415-0379
7.2@maverickbike.com

Maverick American East Office
706 Roger Hill Rd.
East Wallingford, VT 05758
(P) 802-259-3636
(F) 802-259-3638
7.2east@Maverickbike.com

7.2. UK & EUROPE

TF Tuned Shox
HighChurch Farm
Herrington, Radstock
BA3 5XT United Kingdom
(P) +44-0-1373-834-455
www.TFTunedshox.com

8. NOTES